REMARKS

Claims 10-15, 27-32, 41-46, and 54-59 having been withdrawn from consideration pursuant to a restriction requirement, Claims 1-9, 16-26, 33-40, 47-53 and 60-65 are presented for examination. Claims 1, 16, 33, 38 and 47 have been amended to define still more clearly what Applicants regard as their invention, in terms which distinguish over the art of record. Claims 1, 16, 33 and 47 are the only independent claims.

Claims 1-3, 5-8, 16-18, 20-25, 33, 34, 36-39, 47-53 and 60-65 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,417,914 (Li). Claims 4, 9, 19, 35 and 40 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Li as applied to Claims 1-3, 5-8, 16-18, 20-25, 33, 34, 36-39, 47-53 and 60-65, and further in view of U.S. Publications 2001/0055117 (Mizutani) and 2002/0063856 (Inoue). With regard to the claims as currently amended, these rejections are respectfully traversed.

Independent Claim 1 as currently amended is directed to substrate processing apparatus in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained and a processing system is disposed separately from the alignment system and is used to process a substrate. A first substrate stage is able to support a substrate and move in an xy plane. The xy plane is a plane parallel to a direction of an arrangement between the alignment system and the processing system and a z axis is an axis perpendicular to the xy plane. A second substrate stage is able to support a substrate and move in the xy plane. Each of plural position measurement systems measures positions of the first and second substrate stages. At least three position measurement systems are arranged for position

measurement in the x direction of the first substrate stage and the second substrate stage during movement of the first and second substrate stages between the processing system position and the alignment system position. At least three position measurement systems are arranged for position measurement in the y direction of the first substrate stage and the second substrate stage during movement of the first and second stages between the processing system position and the alignment system position. At least one of the position measurement systems for the position measurement in the y direction is disposed at an opposite side of another one of the position measurement systems for the position measurement in the y direction.

In Applicants' view, Li relates to a stage device and exposure apparatus in which a shift in the center of gravity of a stage device and the reaction force caused when one of first and second stage devices are moved are canceled out by a moving member. The exposure apparatus has an exposure station between two alignment stations and a wafer is aligned at one alignment station while exposure is performed on another wafer at the exposure station. One interferometer system measures the position of the first wafer in the x and y directions and another interferometer system measures the position of the second wafer in the x and y directions.

According to the invention of Claim 1 as currently amended, (1) each position measuring system measures positions of the first and second stages, (2) at least three position measurement systems are arranged for the position measurement in the x direction of the first stage and the second stage during movement of the first and second stages between the processing system position and the alignment system position and at least three position measurement systems are arranged for the position measurement in the y direction of the first

stage and the second stage during movement of the first and second stages between the processing system position and the alignment system position and (3) at least one of the position measurement systems for the position measurement in the y direction being disposed at an opposite side of another one of the position measurement systems for the position measurement in the y direction.

Li may teach an exposure device that provides an alignment system for a first wafer, an alignment system for a second wafer and a processing system between the alignment systems that processes the first and second wafers sequentially. As clearly disclosed in Li at least at lines 25 through 61 of column 12, "the position of the wafer stage WST1 within the X-Y plane is always detected with, for example, a resolution of around 0.5 to 1 nm by the wafer interferometer 58_1 fixed on the column 25." and "the position of the wafer stage WST2 within the X-Y plane is always detected with, for example, a resolution of around 0.5 to 1 nm by the wafer interferometer 58_2 fixed on the column 25." As a result, it is a requirement in Li that the position of each wafer stage be accurately monitored by it's own interferometer in order to cancel for shifts in the center of gravity of gravity and the reaction force when at least one of first and second stage devices move. Li, however, is devoid of any teaching or suggestion of the feature of Claim 1 that each position measuring system measures the positions of the first and second substrate stages.

Further, the Li arrangement provides for the movement of one stage between a first alignment station ALG1 and a processing station 10 and separate movement of another stage between a second alignment station ALG2 and the processing station 10 so that one position

measuring system 58_1 only measures the position of a stage WST1 and another different position measuring system 58_2 only measures the position of a stage WST2. The Li disclosure is devoid of any suggestion that a position measuring system measures positions of both first and second substrate stages. Accordingly, it is not seen that Li in any manner teaches or suggests the feature of Claim 1 of at least three position measurement systems each measuring the positions of both first and second stages arranged for the position measurement in the x direction of the first stage and the second stage during movement of the first and second stages between the processing system position and the alignment system position and at least three position measurement systems each measuring the positions of first and second stages arranged for the position measurement in the y direction of the first stage and the second stage during movement of the first and second stages between the processing system position and the alignment system position. Additionally, Li is devoid of any suggestion of the feature of Claim 1 that at least one of the position measurement systems for the position measurement in the y direction is disposed at an opposite side of another one of the position measurement systems for the position measurement in the y direction. It is therefore believed that Claim 1 as currently amended is completely distinguished from Li and is allowable.

Independent Claim 16 as currently amended is directed to substrate processing apparatus in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained and a processing system is disposed separately from the alignment system and is used to process a substrate. A first substrate stage is able to support a substrate and move in the xy plane. The xy plane is a plane parallel to the direction of

an arrangement between the alignment system and the processing system and the z axis is an axis perpendicular to the xy plane. A second substrate stage is able to support a substrate and move in the xy plane. Each of position measurement systems measures positions of the first and second substrate stages in the x and y directions by radiating beams. While the first and second substrate stages move between an area of the alignment system and an area of the processing system, the position measurement systems which radiate the beams on the first stage and the second stage are changed so that the beams are always radiated on the first and second substrate stages.

It is a feature of Claim 16 as currently amended that each position measurement system measures positions of both the first and second substrate stages in the x and y directions by radiating beams. As discussed with respect to Claim 1, Li requires that one interferometer 58_1 measure only the position of a stage WST1 and another different interferometer 58_2 measure only the position of a stage WST2 and is devoid of any position measuring arrangement wherein each of plural position measuring systems measures positions of both first and second substrate stages.

It is a further feature of Claim 16 that first and second substrate stages move between one alignment system area and one processing system area and that during the movement of the first and second substrate stages, the position measurement systems radiating the beams of the first and second stages are changed. In Li, the stage WST1 only moves between one alignment detection system ALG1and a processing station 10 while the stage WST2 only moves at a different time between another alignment detection system ALG2 and the processing station 10 so that there is no suggestion of any change in beam radiation for interferometers 58_1 and 58_2. As a result, it is not seen that Li in any manner teaches or suggests the aforementioned features of

Claim 16. It is therefore believed that Claim 16 as currently amended is completely distinguished from Li and is allowable.

Independent Claim 33 as currently amended is directed to substrate processing apparatus in which in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained and a processing system is disposed separately from the alignment system and is used to process a substrate. A first substrate stage is able to support a substrate and move in the xy plane. The xy plane is a plane parallel to the direction of an arrangement between the alignment system and the processing system and the z axis is an axis perpendicular to the xy plane. A second substrate stage is able to support a substrate and move in the xy plane. Each of plural position measurement systems measures the positions of the first and second substrate stages. Every time the first and second substrate stages are aligned in the x direction while the first and second substrate stages move between an area of the alignment system and an area of the processing system, the order in which the first and second substrate stages are aligned is the same.

It is one feature of Claim 33 that each of plural measuring system measures positions of both first and second substrate stages and another feature that each time the first and second substrate stages are aligned in the x direction while the first and second substrate stages move between the alignment system area and the processing system area, the order in which the first and second substrate stages are aligned is the same. As discussed with respect to Claims 1 and 16, Li is restricted to a structure in which one interferometer 58_1 measures only the position of a stage WST1 and another different interferometer 58_2 measures only the position of a stage WST2

but fails in any manner to teach or suggest any position measuring arrangement wherein each of plural position measuring systems measures positions of both first and second substrate stages as in Claim 33. Further, the Lee structure requires transfer of a substrate stage WST1 between one alignment system ALG1 and a processing system 10 and separate transfer of a substrate stage WST2 between a different alignment system ALG2 and the processing system 10. Accordingly, there is no movement of first and second stages between one alignment system area and one processing system area in Li nor is there any suggestion in Li of the feature of having the first and second substrate stages aligned in the same order as in Claim 33. In at least these respects it is believed that Claim 33 as currently amended is completely distinguished from Li and is allowable.

Independent Claim 47 as currently amended is directed to substrate processing apparatus in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained and a processing system is disposed separately from the alignment system and is used to process a substrate. A first substrate stage is able to support a substrate and move in the xy plane. The xy plane is a plane parallel to the direction of an arrangement between the alignment system and the processing system and the z axis is an axis perpendicular to the xy plane. A second substrate stage is able to support a substrate and move in the xy plane. Each of plural position measurement systems measures the positions of the first and second substrate stages. When the first and second substrate stages move between an area of the alignment system and an area of the processing system, clockwise and counterclockwise rotations around the z axis are alternately performed.

As discussed with respect to Claims 1, 16 and 33, Li requires that one interferometer 58_1 measures only the position of a stage WST1 and another different interferometer 58_2 measures only the position of a stage WST2 but is devoid of any suggestion of a position measuring arrangement in which each of plural position measuring systems measures positions of both first and second substrate stages as in Claim 47. In addition, Li moves one substrate stage WST1 between one alignment system ALG1 and a processing system 10 and separately moves another substrate stage WST2 in a separate operation between another alignment system ALG2 and the processing system 10. As a result, there is no suggestion in Li of first and second substrate stages moving between one alignment system area and one processing system area or any suggestion as to whether the movement of substrate stages WST1 and WST2 move with clockwise or counterclockwise rotations around a z axis. It is therefore not seen that Li could possibly teach or suggest the feature of Claim 47 of alternately performing clockwise and counterclockwise rotations around a z axis when the first and second substrate stages move between the one alignment system area and the one processing system area. Accordingly, it is believed that Claim 47 as currently amended is completely distinguished from Li and is allowable.

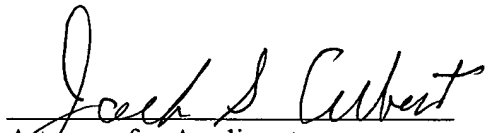
A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' attorney may, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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